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Inaugural Dissertation

On

Apoplexy

By

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Member of the Philadelphia Medical Society.

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To

St. Chapman, M.D.

Professor of the Institutes and Practice of Physic and
Clinical Practice in the University of Pennsylvania;

And

Thomas C. James, M.D.

Professor of Midwifery in the University of Pennsylvania;

As a small tribute of gratitude for the friendship and
politeness you have on so many occasions shown me,

This Dissertation

Is most Respectfully Inscribed

By your sincere and much

Obligated friend,

The Author.

On

Inaugural Dissertation

On

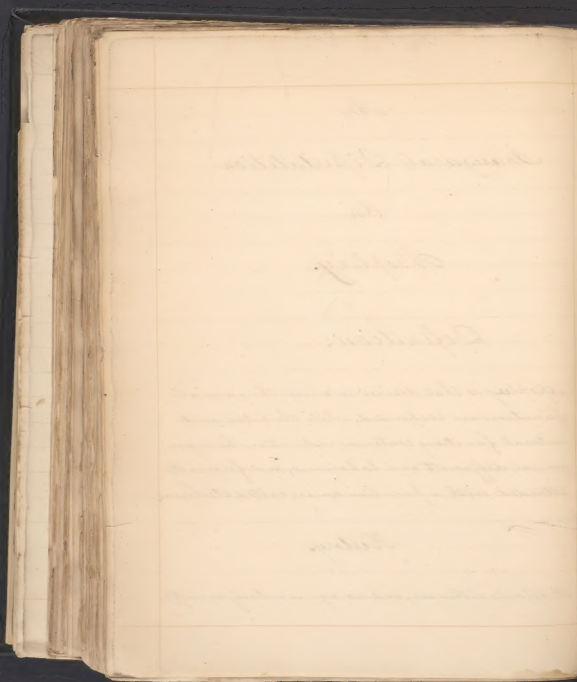
Apoplexy.

Definition.

Apoplexy is that disease in which the animal functions are suspended, while the vital and natural functions continue; respiration being in general difficult and laborious, and frequently attended with a peculiar noise, called stertorous.

History.

It attacks either sex, and no age is entirely exempt.



ed from becoming affected with this disease: it sometimes attacks persons in infancy, in youth, and in the meridian of life, but chiefly those who are far advanced in years.

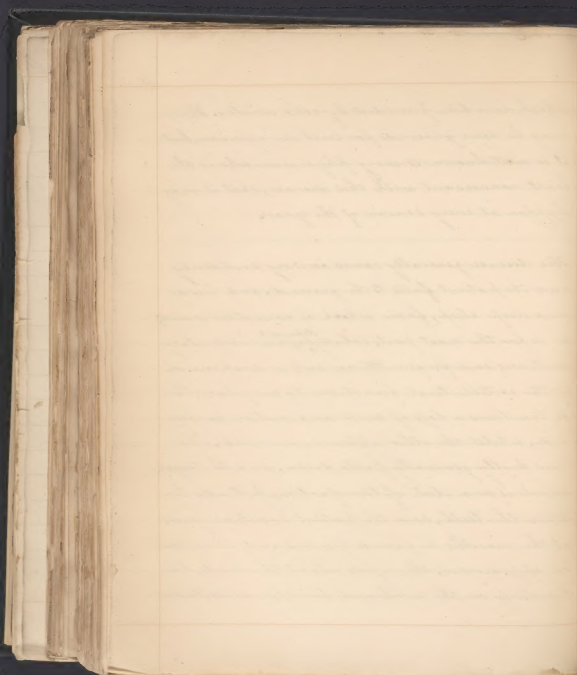
It is supposed that persons who are of a particular formation of body, are peculiarly predisposed to this direful malady, most usually those who have large heads and short thick necks, more especially if there be much irritability in their muscular and nervous systems.

Persons who are of a plethoric habit, and those who have led an inactive and sedentary life, made use of a full diet, and indulged in frequent intoxication, are more subject to this disease than others.

It is observed that apoplexy occurs most frequently in cold winters, or in warm springs

which have been preceded by cold winters. There may be some grounds for such an opinion, but it is well known to every physician who is the least conversant with this disease, that it may happen at every season of the year.

This disease generally comes on very suddenly and the patient falls to the ground, and lies as in a deep sleep, from which he cannot be roused; he is for the most part, totally ^{deprived} of all voluntary motion; and frequently an entire suspension of the intellectual functions takes place: there is sometimes a loss of sense and motion on one side, whilst the other appears convulsed. The jaw pretty generally falls down, and the tongue, which is in a state of tumefaction, protrudes between the teeth, and the patient sometimes foams at the mouth; the face is flushed and has a bloated appearance, the vessels about the head, particularly on the neck and temples, are distended



with a sad, dejected air, that a more large
 the ^{the} occurs even the nose, mouth, and ears, which
 is usually regarded as a thermometer to the
 body; the eyes are highly inflamed and red,
 the eyes are bloodshot and prominent, some-
 times they have a glazed and staring appear-
 ance:

The pulse is usually fast, strong, and rising;
 sometimes it is weak, languid, and slow, the
 latter state usually takes place towards the
 termination of the malarial fever.

The disease is commonly difficult and in-
 curable, and is frequently attended with stoma-
 chical disorders, sometimes it is attended with a spontaneous
 emission of urine, with an involuntary evacua-
 tion of faeces. The skin, tho' frequently hot and
 dry, is sometimes of the ordinary temperature
 and covered with a copious perspiration.



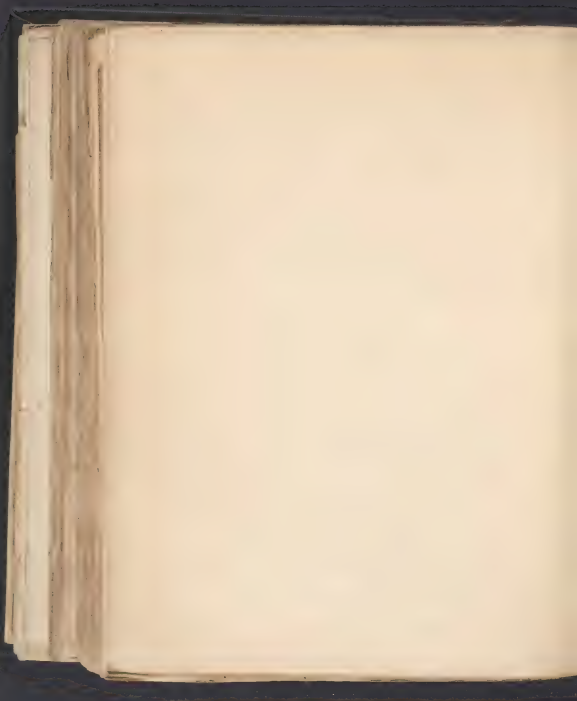
There is seldom, or sometimes, a complete in-
 termittent, or a period of complete
 remission, and, as, sometimes, sleep is
 lost, with some degree of delirium, or, con-
 fusion, and, in the evening, and is, often, ex-
 tremely, and, patients are sometimes affected
 with a sensation of tickling, or a tingling
 nature, as if insects were crawling upon them;
 it is generally, in a great degree, in the evening,
 accompanied with frequent fits of shivering, tim-
 nor of sight, and, sometimes, loss of memory, fre-
 quent fits of incoherence, some transient inter-
 ruption of hearing, and, sometimes, in the
 ears, seminated "Tinnitus aurium", haeman-
 ology from the nose, and, cauterizing of the
 tongue in speaking.

There is sometimes a "Stiller declinens", a grinding
 of the teeth, when the patient is in a state of
 somnolence, or a deep sleep, and an inflation,

or sense of pain, and the most violent degree of the
convulsion of the eyes, with an almost total insen-
sibility; shivering, and the diarrhoea, and
the various respiration in the latest degree of
a crisis, tremblings in most of the organs of
voluntary motion, and an unusual absence
of the haemorrhoids in those who are subject to
attacks of this disease.

Erysipelas.

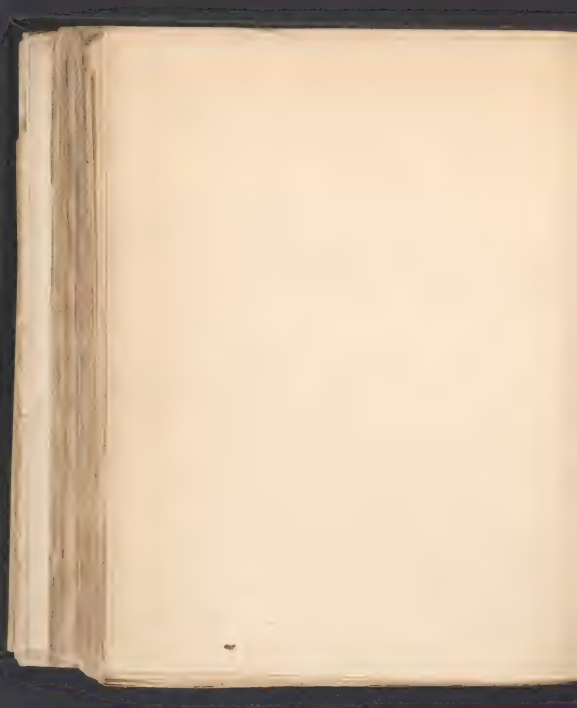
Erysipelas is generally divided into Erysipelas
malignum, and Erysipelas commune, but the differ-
ence in their symptoms, has caused no small
difficulty, if not an entire impasse, both
to draw a line, and to demonstrate a line between
them, and it is only after the death of the patient
that we can ascertain whether the effusion is
blood or serum; nor is this more in doubt,
for both kinds may frequently depend on



removes, & at one instant, kicking, hunching, agitation. But in a fit & apoplexy such applications produce no effect.

The coma which succeeds a fit of children bears a strong resemblance to a stroke, but may be distinguished from it, it is said, by paying particular attention to the tracheal convulsions.

Intoxication of comatose & epileptic phenomena so very analogous to those of this disease, that they have suffered by slander, and even Physicians of observation and experience, when called to persons of whom no account could be given. When the phenomena arise from intoxicating liquors, the breath is strongly impregnated with the smell of the liquor, which constitutes the most certain mark of discrimination; but on the other hand,



when there is produced by tension which do not afford this distinguishing mark; such is always been, hitherto, the case, will be more difficult, and even if the physician suspects the cause, from the state of the hands as to hardness and tension, he may remain for several hours, in doubt and uncertainty.

Large doses of opium and other narcotics, as indicated by signs and symptoms when taken into the stomach, produce symptoms so very similar to those of shock, that it would be very difficult to point out the difference. Physicians may afford some assistance in determining the various circumstances of the circumstances of patients in this situation, tho' they are very difficult if not impossible to describe; perhaps the pulse may afford another criterion, which is more frequent, but not so full as in shock.

It is more like than of the usual case, sometimes
 has brought on by accident, the stomach
 with food of difficult digestion; when this
 secures the patient a variety of symptoms of obstruc-
 tion and increasing of his stomach, &c. &c. The
 state is not so slow and gradual as the case of
 a cold or latent. It is often in cases of
 this kind, which ends in some of the catarrhs,
 to relieve the stomach by the cathartic, and ad-
 ministrations large draughts of warm water,
 or gentle emetics.

The Prolonged Cause.

They are also cases in which the disease occurs
 from a continued accumulation of blood
 in the vessels of the heart. The most important
 of these, are the various causes which com-
 monly produce a putrefaction of the system,
 such as intemperance in eating and drinking;

thing of course, for we can increase or the
 quantity of chyle. When we are full of
 meat & blood in the stomach & intestines, when
 the stomach is saturated with food & drink, the
 same consequences result as from such
 a state of that organ, is a compression of
 the vessels and viscera of the abdomen, and
 an impediment to the free motion of the dia-
 phragm, whereby the lungs are prevented from
 performing their office with ease; thus in the
 case, the vicious blood cannot return
 so freely from the head; this we see persons
 after a full dinner with their faces florid
 and lustered, their eyes red, and sometimes
 a degree of drowsiness and stupor comes
 on. From the various effects which ensue
 in eating and drinking inordinately, it is
 evident that they will keep up a bad dis-
 position to this disease.

In indolent life with a full diet has

a tendency to increase, and without
 thought of, or usually known, predisposing
 cause of this condition.

Constriction of any large vessel, & concen-
 tration, is an concentration of blood from the
 meningeal vessels, forming the disease
 known by the name of the bleeding, &c.,
 hemorrhage from the vessels after it has become
 habitual, or producing enlargement in the system,
 is another predisposing cause of a headache.

A large head is said to be a circumstance
 which predisposes to this disease, and many
 are of opinion that it occurs more frequently
 in such cases than in others; whether the
 uncommon size of the head, as some suppose,
 is only an effect of the predisposing cause,
 and is to be considered as indicated in the
 determination of the blood, rather than

occasioning it, is difficult to determine.

A short neck is also said to occasion a predisposition to apoplexy; this is highly probable, because the heart must be much nearer the head, and consequently the blood must flow with more velocity through the arteries to the head; while on the other hand, the return of the blood through the veins is more easily interrupted.

Obstruction is mentioned by medical writers as another predisposing cause, and is supposed to produce this effect by combining the vessels in every part of the body except the head; this is the case the blood of course must accumulate and produce congestion of the brain; respiration becomes difficult to be done, and men immerse the face above of blood from the head.

Exhaustion of the vital and animal, functions
to a degree, by producing a languid circula-
tion, and diminishing the quantity of blood
in the inferior extremities, consequently there
will be a greater determination of that fluid
to the head.

Exertion and concentration of the mind
to any one subject, frequently produces
a determination of blood to the head.

Old men are subject to this disease by pro-
ducing a determination of blood to the
heart, which frequently takes place without
any obvious cause.

The Exciting Causes.

Those such powers as either increase the
momentum or velocity of blood in its circulation

though the vessels of the head, & indeed in
 several the vessels of blood in the vessels
 of the brain. Among these may be mentioned,

Violent exercise, which is supposed to be
 a very common exciting cause, not by
 increasing the impulses of the blood in the
 general circulation.

Heat particularly applied to the head, as in
 a person exposed to the direct rays of the
 Sun; frequently produces apoplexy.

The general application of heat to the body,
 is a frequent exciting cause.

Excess in wine, sometimes, excites, paroxysms
 of this disease.

Violent passions of the mind, as anger;

grasp. In fact these appear particularly to deter-
mine the flow of blood to the head, as is
evident from the floridity of the face.

Stretching down in any length of time, as
lying with the head in a position, in
which the gravity of the blood increases
its afflux through the arteries, and impedes
its return through the veins.

Any violent and sudden motion may
also be considered as an exciting cause of
this disease; it produces this effect by
occasioning a convulsive inspiration, the con-
sequence of which will be, the blood will
be retarded in its passage through the
lungs, from the right side of the heart,
and of course will obstruct the return
of blood from the head. This is also evident
from the appearance of the countenance.

injury and twisting of the neck, tumors, or any considerable impediment to the free passage of blood in the internal jugular veins, will excite apoplexy.

Extreme intoxication, and food of difficult digestion in the stomach, will sometimes bring on a fit of this disease.

Breathing the vitiated air in a crowded assembly will frequently occasion apoplexy. The various narcotics will sometimes produce a similar effect.

Hemiplegia is supposed to be a powerful exciting cause, as the contents of the abdominal viscera are in this case, violently compressed, the diaphragm and muscles of the abdomen are convulsed, consequently the blood in the ascending vena cava will

be sent with more ease to the right side of the heart, there is impeding the discharge of blood from the descending vena cava, and the descending aorta will also be in some degree compressed, and there will be a much greater accumulation of blood to the head; while at the same time the respiration being obstructed during vomiting, the blood which passes to the right ventricle of the heart, is impeded and cannot be discharged into the pulms any more; hence the venous blood returning from the lower extremities is obstructed, while there is at the same time a considerable quantity sent to the head by the larger arteries, and apoplexy is frequently the consequence from a rupture of and extravasation of blood from some of the vessels of the brain.

Proximate Cause.

There is a great line site of skinned amongst
 physicians, with regard to the proximate cause
 of disease, and it seems to be a branch of the
 Science of Medicine not yet well understood.
 There have been several theories advanced, at
 different periods, to account for the proximate
 cause of the disease now under consideration;
 but the greater part of them do not appear to
 be well founded.

Thus some suppose the disease to depend entirely
 on a chronic diathesis, whilst it is ascribed by others
 who claim no less authority to depend on an ac-
 cidental diathesis of the system, and Whistman attrib-
 uting this disease always to depend on hæmorrhage
 of vessels, gives the same proximate cause to it,
 as to hæmorrhage in any other part of the body.

Others suppose the proximate cause to be what-
 ever interrupts the motion of the nervous power

from the brain to the muscles of the voluntary motion, or whatever interrupts the motion of the nervous power from the sentient extremities of the nerves to the brain.

It was the opinion of the late much regretted Doct^r Tuck, that the proximate cause of apoplexy, is a cessant or cessant of irregular action in the vessels of the brain, which appears to me more consonant to just reason and sound philosophy, than any which has been advanced on that subject, I shall, therefore adopt his theory of the proximate cause of apoplexy.

Prognosis.

A physician should always be extremely cautious in giving a decided opinion in relation to the favorable termination of this disease; for, in many cases, the causes which produce an

about the, harrowing in of the disease, and the disease runs its course with such great rapidity, that life is sometimes very soon extinguished; notwithstanding the most efficacious remedies have been employed with vigilance and circumspection; but at the same time a physician may be more safe and judicious in giving a prognosis, if he will always take into consideration, the age, strength, constitution, and customary habits of the patient; also the nature, symptoms, and duration of the disease, and its progress, describing it as either acute.

If coma and other attending symptoms be slight, and the strength of the system not much exhausted, it may be some times a warning, but on the other hand, if all the symptoms continue violent for several days, the disease will generally terminate fatally, or in some other complaint.

and it is said that before death, the pulse
which had all along been very low, now
becomes quick and frequent in its pulsations.

The generally received opinion that a patient
cannot survive a third attack of a fit of
apoplexy, appears to be factitious, for
it is evident that it entirely depends on the
violence and duration of the second seizure,
and not on any particular number, as if
the patient is to be reckoned more or less
dangerous in proportion to the diminution
of his senses. When the pulse becomes very
slow or very frequent, it is observed to be
an unfavorable sign, and an approach
and very weak pulse generally denotes ap-
proaching dissolution. When the external
muscles of the anus and bladder are re-
laxed at the commencement of an attack,
it generally terminates in death.

When the patient loses all power of deglutition the danger is very great, as it indicates an attack of great violence; and when a cold common cold comes out on the surface of the body, the vomit becomes bloody, and the vomit is solid and dark, the prognosis is a continuing indisposition, and a recovery under such circumstances is not to be expected; on the contrary, when the skin is dry and the patient is in a situation of great exhaustion, and if the stomach retains, accompanied with a cold and some suppuration over the whole surface of the body, the prognosis is more favorable. It is observed that copious discharges of urine containing a sediment, spontaneous evacuations from the intestines, and a cold sweat, have been the means of bringing on a dissolution of the disease.

Treatment.

When a person has once been so unfortunate as to be attacked with a paroxysm of this dreadful malady, however slight it may have been, his constitution suffers greatly by it, and he is more liable to a recurrence of the disease.

In treating of the cure of apoplexy, we shall divide it into two parts. The first is to employ the most appropriate remedies during the continuance of a paroxysm; the second, to administer those remedies which will be most proper for preventing its return.

The remedies most likely to fulfil the first indication are the following.

1st Bleeding. This is to be immediately employed.

much prostration & debility. When general-bleeding has been carried as far as the patient's strength will admit of, and the symptoms still continue, cupping and scarifications of the neck, temples, and back, part of the head, may prove highly beneficial and should never be omitted.

2^d Purgs. They are of the greatest importance, and act not only by removing from the bowels their fecal contents, but generally the head is relieved in proportion to the quantity of liquid matter they evacuate. If the power of swallowing remain, some active purgative should be given by the mouth, but if the patient has lost the power of deglutition, acrid stimulating injections should be administered; they have the effect of clearing the bowels, and exciting a degree of irritation and inflammation in the rectum;

they thus invite the morbid action to the part,
and diminish the excitement in the brain.

3rd Cold water is a very powerful means
of diminishing the excitement of the vessels,
and when poured on the head may become
a very efficacious remedy in the treatment
of shockley.

4th Cool and fresh air is of the utmost im-
portance in this disease, therefore the patient
should, if possible, be immediately carried
into a spacious chamber, into which cool
and pure air may be freely admitted.

5th It is absolutely necessary that the patient
should be placed in such a posture which
least favors the determination to the head,
and all ligatures, especially the neck-cloth,
should be speedily removed.

1st Blesters should be applied to the whole head. It is necessary the head should be shaved some time previous to their application; they impart heat to the stimulus to the system, and appear to produce their good effects by the evacuation they occasion.

2nd Cataplasms composed of mustard, sen-
sitive, horseradish, or any other stimulating
substance, applied to the sides of the head
and sides of the neck, have proved very bene-
ficial in rousing and exciting the patient.

I shall now proceed to consider the remedies
for the second indication. As apoplexy
may occur in two or y different states of
the constitution, the method of preventing
the paroxysms must be regulated accordingly.

All those persons who are of a full and robust

habit, should be temperate in eating and drinking; they should pay particular attention to the quantity and quality of their aliment, and should always carefully avoid overloading their stomachs with food, especially before going to bed. Those who are in the habit of supping, should take food that is light and easy of digestion, and in moderate quantities.

If the patient has been accustomed to drink wine, or ardent spirits of any kind, he should not suddenly abstain from them, but use them in very moderate quantities, and diluted with water; wine being lighter and less nutritious than beer, porter, or indeed any malt liquor, should therefore be preferred.

Exercise is highly beneficial and preventive in this disease, and when used in conjunction with a proper diet, will in a great degree,

pleasant asthma of the system; it should be of such a kind as will support the perspiration without augmenting the heat of the body or hurrying respiration; therefore walking and riding will be found the most beneficial.

Violent passions of the mind, especially anger, should, by all means, be carefully avoided. All the exciting causes should be particularly guarded against, such as anxiety of the mind, intense application to study, tight ligatures about the neck, cold and wet feet &c. If a person has been habituated to have an evacuation from the nose, hæmorrhoidal vessels, or any other part of the body, and that should be suddenly checked, he ought to endeavour by every possible means in his power to bring back the customary discharge. If that cannot be effected, he must have recourse

to an issue between the shoulder, or a siton in the neck, but great care must be taken not to allow them to dry up without opening some other drain in their stead. Old customs and habits should not be changed suddenly, but in a gradual manner. Persons who are of a delicate and weakly habit, and have symptoms of plethora and turgescence in the vessels of the head, should observe temperance in eating and drinking, and endeavour to avoid those causes which accelerate the circulation of the blood; and they ought to use gentle exercise, and every other means which might have a tendency to restore tone and vigor to the system.

If the precursory symptoms which I formerly mentioned on another occasion, should occur, notwithstanding means have been employed to prevent them, the person should be bled, take a purge, and live upon an abstemious diet.

Fini's.

